

## REMARKS

This is in response to Office Action mailed on April 26, 2012. In the Office Action, claims 66-79 and 81-85 were rejected. With this Amendment, claims 66, 73, 83 and 85 are amended. No new matter is added. Claims 66-79 and 81-85 are pending in the application. In light of the foregoing amendments and following remarks, Applicants respectfully request advancement of this application to allowance.

### **Rejections Under 35 U.S.C. § 103**

In the Office Action, claims 66,70,73,77,81-83, and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over United States Patent No. 5,367,571 to Bowen et al. ("*Bowen*") in view of United States Patent No. 5,321,840 to Ahlin et al. ("*Ahlin*") in view of United States Patent No. 5,251,909 to Reed et al. ("*Reed*"). Claims 67-69, 71,72,74-76,78,79, and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Bowen*, *Ahlin*, and *Reed* as applied to claims 66, 73, and 83 above, and further in view of United States Patent No. 5,526,034 to Hoarty et al. ("*Hoarty*").

Applicants respectfully traverse the rejection and the sufficiency of the rejection is not conceded. However, in an effort to advance this application to allowance, independent claims 66, 73, 83 and 85 are amended.

Independent claim 66 recites an upgrade interface configured for insertion within an expansion card interface slot of a set top terminal for providing access to a set top terminal microprocessor bus coupled to the set top terminal microprocessor and providing data to the set top terminal microprocessor via the set top terminal microprocessor bus; a communications port to provide communication between the hardware upgrade and a headend; and a hardware upgrade microprocessor, coupled to the upgrade interface, the hardware upgrade microprocessor configured for communicating directly with the set top terminal microprocessor through the set top terminal microprocessor bus via the upgrade interface; wherein the hardware upgrade microprocessor provides enhanced functions to the set top terminal microprocessor through

communication with the set top terminal microprocessor using the upgrade interface coupled to the set top terminal microprocessor bus according to receive interactive input received from a subscriber, generate responses based on the received interactive input and for provide the generated responses to the microprocessor of the set top terminal, the hardware upgrade microprocessor configured to communicate directly with a headend via the communications port to receive upgrade data to provide the enhanced functions to the set top microprocessor in response to the interactive input received from the subscriber. Independent claims 73, 83 and 85 set forth the same or similar elements.

In contrast, *Bowen* merely describes a subscriber terminal that may receive external memory and additional security features via an expansion card. However, according to *Bowen*, the set top terminal includes a set top terminal microprocessor and a secure microprocessor. The secure processor of the expansion card does not communicate directly with the set top terminal microprocessor. Also, the secure processor of the expansion card is not coupled directly to the set top terminal microprocessor bus. Rather, *Bowen* states that the secure processor 201 is only coupled to the secure microprocessor bus 143. Indeed, the Office Action states that “*Bowen* fails to disclose the hardware upgrade microprocessor is directly coupled to the set top terminal microprocessor via a microprocessor (bus and further configured to communicate with a head end to receive upgrade data to provide the enhanced functions in response to the interactive input from the subscriber.”

Further, *Bowen* fails to disclose, teach, suggest, or mention “a communications port to provide communication between the hardware upgrade and a headend,” as recited in claims 66, 73, 83 and 85. *Bowen*, also, fails to disclose, teach, suggest, or mention “using the upgrade interface coupled to the set top terminal microprocessor bus according to receive interactive input received from a subscriber, generate responses based on the received interactive input and for provide the generated responses to the microprocessor of the set top terminal, the hardware upgrade microprocessor configured to communicate directly with a headend via the communications port to receive upgrade data to provide the enhanced functions to the set top

microprocessor in response to the interactive input received from the subscriber,” as recited in the claims.

*Ahlin* fails to overcome the deficiencies of *Bowen*. *Ahlin* is merely cited as disclosing discloses a system for downloading application data to a receiver device in response to interactive input from a user, providing the benefit of improved security of receiver functions through system updates and access to a wide variety of diverse interactive services. Further, the Office Action states that “[i]t would have been obvious at the time to a person of ordinary skill in the art to modify the set top terminal of *Bowen* to include the hardware upgrade microprocessor is configured to communicate with a headend to receive upgrade data to provide the enhanced functions in response to the interactive input from the subscriber, as taught by *Ahlin*, providing the benefit of improved security of receiver functions through system updates and access to a wide variety of diverse interactive services.” However, *Ahlin* only teaches or suggests that the set top terminal microprocessor can be utilized to perform these functions.

Accordingly, the combination of *Bowen* and *Ahlin* directly teaches away from having a hardware upgrade microprocessor and a set top microprocessor. Specifically, the combination of *Bowen* and *Ahlin* teaches away from a hardware upgrade microprocessor, coupled to the upgrade interface, the hardware upgrade microprocessor configured for communicating directly with the set top terminal microprocessor through the set top terminal microprocessor bus via the upgrade interface; wherein the hardware upgrade microprocessor provides enhanced functions to the set top terminal microprocessor through communication with the set top terminal microprocessor using the upgrade interface coupled to the set top terminal microprocessor bus according to receive interactive input received from a subscriber, generate responses based on the received interactive input and for provide the generated responses to the microprocessor of the set top terminal, the hardware upgrade microprocessor configured to communicate directly with a headend via the communications port to receive upgrade data to provide the enhanced functions to the set top microprocessor in response to the interactive input received from the subscriber.

Further, *Ahlin* fails to disclose, teach or suggest “a communications port to provide communication between the hardware upgrade and a headend,” as recited in claims 66, 73, 83 and 85. *Ahlin*, also, fails to disclose, teach or suggest an “upgrade interface configured for insertion within an expansion card interface slot of a set top terminal for providing access to a set top terminal microprocessor bus coupled to the set top terminal microprocessor and providing data to the set top terminal microprocessor via the set top terminal microprocessor bus” or “using the upgrade interface coupled to the set top terminal microprocessor bus according to receive interactive input received from a subscriber, generate responses based on the received interactive input and for provide the generated responses to the microprocessor of the set top terminal, the hardware upgrade microprocessor configured to communicate directly with a headend via the communications port to receive upgrade data to provide the enhanced functions to the set top microprocessor in response to the interactive input received form the subscriber,” as recited in the claims.

The Office Action acknowledges that the combination of *Bowen* and *Ahlin* fail to disclose the hardware upgrade microprocessor is directly coupled to the set top terminal microprocessor via a microprocessor bus.

The Office Action cites *Reed* as disclosing “using a single microprocessor in a receiver device to control both handling user inputs and authorizing content (see Abstract, receiver processor is microprocessor 44 in fig. 1).” Further, “[a]s evidenced by *Reed*, it is known in the prior art to more simply use a single processor to perform both functions, thus it would have been obvious at the time to a person of ordinary skill in the art to modify the set top terminal of *Bowen* and *Ahlin* to include a single microprocessor in said set top device to control both handling user inputs and authorizing content.”

However, *Reed* fails to overcome the deficiencies of *Bowen* and *Ahlin*. As discussed above, with respect to *Ahlin*, *Reed* only teaches the use of the set top box microprocessor to perform various functions, which directly teaches away from a hardware upgrade microprocessor, coupled to the upgrade interface, the hardware upgrade microprocessor

configured for communicating directly with the set top terminal microprocessor through the set top terminal microprocessor bus via the upgrade interface; wherein the hardware upgrade microprocessor provides enhanced functions to the set top terminal microprocessor through communication with the set top terminal microprocessor using the upgrade interface coupled to the set top terminal microprocessor bus according to receive interactive input received from a subscriber, generate responses based on the received interactive input and for provide the generated responses to the microprocessor of the set top terminal, the hardware upgrade microprocessor configured to communicate directly with a headend via the communications port to receive upgrade data to provide the enhanced functions to the set top microprocessor in response to the interactive input received form the subscriber.

Further, *Reed* fails to disclose, teach or suggest “a communications port to provide communication between the hardware upgrade and a headend,” as recited in claims 66, 73, 83 and 85. *Reed*, also, fails to disclose, teach or suggest an “upgrade interface configured for insertion within an expansion card interface slot of a set top terminal for providing access to a set top terminal microprocessor bus coupled to the set top terminal microprocessor and providing data to the set top terminal microprocessor via the set top terminal microprocessor bus” or “using the upgrade interface coupled to the set top terminal microprocessor bus according to receive interactive input received from a subscriber, generate responses based on the received interactive input and for provide the generated responses to the microprocessor of the set top terminal, the hardware upgrade microprocessor configured to communicate directly with a headend via the communications port to receive upgrade data to provide the enhanced functions to the set top microprocessor in response to the interactive input received form the subscriber,” as recited in the claims.

Thus, *Bowen*, *Ahlin* and *Reed*, alone or in combination, fail to disclose, teach or suggest the invention as defined in independent claims 66, 73, 83 and 85, as amended.

*Hoarty* fails to overcome the deficiencies of *Bowen, Ahlin* and *Reed*. *Hoarty* is merely cited as that it was known in the art at the time for set top devices with expansion ports to support insertion of a modem device into said expansion port to add additional functionality to the set top device.

However, *Hoarty* fails to disclose, teach or suggest “an upgrade interface configured for insertion within an expansion card interface slot of a set top terminal for providing access to a set top terminal microprocessor bus coupled to the set top terminal microprocessor and providing data to the set top terminal microprocessor via the set top terminal microprocessor bus,” as recited in claims 66, 73, 83 and 85. *Hoarty* also fails to disclose, teach or suggest “a hardware upgrade microprocessor, coupled to the upgrade interface, the hardware upgrade microprocessor configured for communicating directly with the set top terminal microprocessor through the set top terminal microprocessor bus via the upgrade interface; wherein the hardware upgrade microprocessor provides enhanced functions to the set top terminal microprocessor through communication with the set top terminal microprocessor using the upgrade interface coupled to the set top terminal microprocessor bus according to receive interactive input received from a subscriber, generate responses based on the received interactive input and for provide the generated responses to the microprocessor of the set top terminal, the hardware upgrade microprocessor configured to communicate directly with a headend via the communications port to receive upgrade data to provide the enhanced functions to the set top microprocessor in response to the interactive input received form the subscriber,” as recited in the claims.

Thus, *Bowen, Ahlin, Reed, Hoarty*, alone or in combination, fail to disclose, teach or suggest the invention as defined in independent claims 66, 73, 83 and 85, as amended.

Further, in the Office Action, the “Examiner takes official notice that accessing interactive content via submenus provided as an overlay to a program displayed is notoriously well known in the art.” The Applicants traverse each instance where the Examiner has taken official notice, and request that the Examiner provide tangible proof of the existence of the state of the art to which the Examiner has taken official notice in the event that the next action on the

merits is not an allowance of all claims against which official notice was taken. MPEP § 2144.03 provides that the Examiner may take official notice of facts outside of the record which are capable of instant and unquestionable demonstration as being “well-known” in the art. However, the MPEP also states that, if the applicant traverses such an assertion, the Examiner should cite a reference in support of his or her position. In the instant case, the Applicants traverse each of the assertions of official notice as stated above, and respectfully request that evidence of the correctness of the statements in the official notice be provided.

Dependent claims 67-72, 74-79, 81-82 and 84 are also patentable over the references, because they incorporate all of the limitations of the corresponding independent claims 66, 73, 83 and 85. Further dependent claims 67-72, 74-79, 81-82 and 84 recite additional novel elements and limitations. Applicants reserve the right to argue independently the patentability of these additional novel aspects. Therefore, Applicants respectfully submit that dependent claims 67-72, 74-79, 81-82 and 84 are patentable over the cited references.

### CONCLUSION

In view of the foregoing remarks and amendments, Applicants respectfully request reconsideration and the timely allowance of the pending claims.

The preceding arguments are based only on the arguments in the Office Action, and therefore do not address patentable aspects of the invention that were not addressed by the Examiner in the Office Action. The claims may include other elements that are not shown, taught, or suggested by the cited art. Accordingly, the preceding argument in favor of patentability is advanced without prejudice to other bases of patentability.

If a telephone conference would expedite the prosecution of the application, or if there are any issues that remain to be resolved prior to allowance of the claims, Examiner Saltarelli is encouraged to call Steven Owens at 865-380-5988.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 13-2725 for any additional fee required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,



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